<u>REMARKS</u>

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks.

The amendments to the claims are to cancel claims 1 to 15 without prejudice, and to replace these claims by adding new claims 16 to 30. Each of the new claims 16 to 30 has been revised so as to overcome the various formal objections against claims 1 to 15 under 35 U.S.C. 112. Hence proper antecedent basis has been provided wherever it is required.

In each of claims 1 to 15, the term "characterized in that" has been canceled and has been replaced by either "wherein" or "comprising."

Summarized briefly, the six steps of the method according to claim 1, now claim 16, comprise the following sequence of steps:

1. Ion exchange.

2. Reduction tempering; formation of crystalline particles.

3.   Tempering, particle growth.

4.   Ion exchange.

5.   Reduction tempering, formation of new crystalline particles.

6.   Glass deformation.

The object of the method is to form metallic particles that <u>vary</u> as much as possible <u>in size</u> and represent ellipsoidal particles with <u>different ellipticity ratios.</u> Please refer to the last lines of original claim 1, now claim 16.

<u>Concerning the particle size objection to Original claim 1, now claim 16:</u>

The size of the particles ("small" or "large" particles) ensues from the method and is not to be defined by any specific dimensional data in the claim. In connection with the ion exchange, the question as to which dimensions the ions have is of no significance; important is the fact that an ion exchange is taking place. The particles grow in size during tempering. It is of no interest in that connection how large the particles become (no dimensions are therefore

specified); however, it is important that the particles are
growing, i.e they become larger. Ions are introduced again
in the fourth step of the method. These newly introduced
particles are of course smaller than the ones previously
produced. What is achieved in that way is that a different
size distribution is obtained. The absolute sizes of the
particles are of no interest. The glass is stretched or
expanded on the 6th step of the method. Owing to the
different sizes of the particles (the absolute dimension is
of no significance), ellipsoidal particles with different
ellipticity ratios are obtained.

Also concerning the objection to claim 1, (now claim 16)
with respect to "in a way similar to that one in the first
step":

The metal ions are introduced in the first step. The
fourth step is the same as the first one. In the European
patent Specification, this reads as follows: "analogous" to
the first step. Steps 1 and 4 are consequently identical.

The following still needs to be noted with respect to
the practical implementation of the method: The ion exchange

reaction takes place at a slightly slower rate in the fourth step than in the first step because as opposed to the starting condition, metal ions have already been introduced into the glass.

Concerning the objection to Original Claim 2, (Now claim 17):

The deformation step here is the same one as the 6th step in claim 16.

Concerning the objection to Original Claim 3, (Now claim 18):

With regard to the question, in the Office Action, the following explanation is provided (that apply to claim 16 as well):

The steps 1 and 2 lead to the formation of spherical metallic crystalline particles in the glass, with radii ranging from about 3 nm to 7 nm (on the average of about 5 nm). In the 3rd step, the particles grow to sizes with radii of (on the average) greater than 10 nm. In the 4th step, new

metal ions are introduced into the glass, which, in the 5th
step, are reduced to neutral metal atoms that again form new
(small) particles of about 3 nm to 5 nm, whereas the
particles previously present (from steps 1 to 3) will further
grow in size in this step.

What is achieved in this way is that the glass will
contain metallic particles that have a broader size
distribution than would be obtainable only by steps 2 to 3,
or 5 to 6.

Now concerning the question in the Office Action, the
more often the steps 1 to 5 are carried out, the broader the
size distribution will become. Therefore, an exact
specification as to how often steps 1 to 5 are repeated is of
no importance here. With the knowledge of claim 3, the
expert will know that a very wide range of absorption can be
achieved if steps 1 to 5 are carried out a number of times.
Please refer to the 1st example of implementation and to FIG.
1.

<u>Concerning the objection to Original Claim 4, (Now claim</u>
<u>19)</u>:

After the deformation, the metal particles have an ellipsoidal shape. The eccentricity is a measure of the ellipsoidal shape. At temperatures that cause a softening of the glass matrix, the embedded particles undergo a relaxation with respect to their shape to the extent that their eccentricities decrease, and they will again assume the spherical shape in the extreme case (the eccentricity will then amount to zero in that case). The driving force is the surface tension, which reaches a minimum when the particles are spherical. The particles strive for this condition for energetic reasons when the glass softens and the relaxation of their form is then made possible.

In the attached copy of *EP 1 095,298 B1*, please refer to column 7, paragraph [0037]. Therefore, no measurement is specified for any re-deformation (in the direction of the spherical shape). The expert knows that any re-deformation will lead to a change of the dichroic absorption bands. Now, the question as to which bands will be adjusted will depend on the given intended purpose of application of the polarizers.

Concerning the objection to Original Claim 5, (New claim 20):

The ions specified in claim 5 are the same as those specified in steps 1 and 4. This also ensues from the fact that in the PCT-application, claim 5 relates to claim 1,2 or 3.

The explanations in this regard can be found in the PCT-application, German version, page 6, starting with the third paragraph.

Concerning the objection to Original Claim 7, (Now claim 22):

The reduction according to step 2 takes place in a hydrogen or hydrogen/nitrogen atmosphere. This follows from the fact that claim 22 relates back to claims 16 and 21 of the application. Explanations in that regard follow from the 2nd example of implementation, among others.

Concerning the objection to Original Claim 10, (Now claim 25):

The expansion of the glass naturally relates to the 6th step of the method (see also that claim 25 is again related back to claim 16).

Concerning the objection to Original Claim 11, (Now claim 26):

The German description in the PCT-application specifies the execution of the deformation on page 7, paragraph 5 from the top, and refers to the 6th step of the method in original claim 1 now claim 16. The glass deformation is specified as a step of the method also in the example of implementation 2 (page 9, paragraph 2 from the top), and in the example of implementation 3 (page 9, paragraph 5 from the top), for the purpose of achieving a wide-banded dichroitic absorption (see the Specification, page 1, paragraph 1). Thus proper antecedent basis has been provided for "drawing the glass."

Concerning the objection to Original Claim 12, (Now claim 27):

Explanations can be found in the 5th example of implementation. The UV-polarizer of the type produced according to claim 16 is <u>additionally</u> provided with energy within the narrow ranges according to claim 27.

Concerning the objection to Original Claim 13, (Now claim 28):

Claim 28 recites "an energy input" and thus provides proper antecedent basis.

This claim relates back to claim 27. This treatment is also specified in the PCT-description on page 8, paragraph 3 from the top, and in the 5th example of implementation.

Concerning the objection to Original Claim 14, (Now claim 29):

Claim 29 recites "masking a glass surface" and thus provides proper antecedent basis.

The PCT-description, page 8, paragraph 4 from the top, as well as the 4th example of implementation, substantiate and describe what is specified in claim 29.

<u>Concerning the objection to Original Claim 15, (Now claim 30)</u>:

This claim relates to combinations of the steps in claims 27, 28, and/or 29, which are feasible as well. Claim 30 recites "a local energy input" and "a masking and etching" and thus provides proper antecedent basis.

For all these reasons set forth above, all the claims are now believed to be in complete compliance with the requirements of 35 U.S.C. 112. Withdrawal of this ground of rejection is respectfully requested.

A prompt notification of allowability is respectfully requested.

Respectfully submitted,

WOLF-GERNOT DROST ET AL-2 (PCT)

By

COLLARD & ROE, P.C.
1077 Northern Boulevard
Roslyn, New York 11576
(516) 365-9802
ERF:dm

Allison C.Collard,Reg No.22,532
Edward R.Freedman,Reg.No.26,048
Attorneys for Applicant

Enclosure: 1) Copy Petition One Month Extension of Time
2) Copy EP 1,095,298 B1

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 4, 2003.

Maria Guastella

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